

# PHASE II MUNICIPAL STORMWATER MANAGEMENT PROGRAMS (SWMP)



# SWMP OVERVIEW

- ✓ Permit Condition S5 – Program requirements for all city, town, and county permittees
- ✓ Comprised of 5 program components + Total Maximum Daily Load TMDL implementation and evaluation

1. Public Education and Outreach
2. Public Involvement
3. Illicit Discharge Detection and Elimination
4. Controlling Runoff
5. Pollution Prevention for Municipal Operations
  - TMDL Implementation if necessary
  - Program Evaluation

# SWMP DESIGN

- ✓ Designed to reduce pollutants to **Maximum Extent Practicable** (MEP) and **protect water quality**
- ✓ **Minimum measures** are required. Requirements summarized in Appendix 3 and subject to S9 – Reporting
- ✓ Applies to **geographic area** of permit coverage

# A Word on Documentation

## Annual Reports +

- Organized by program components + TMDLs
- Annual milestones like inspections, enforcement & public education
- Evaluate progress toward compliance and effectiveness
- Track costs of development and implementation

# Today's Roadmap

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Controlling Runoff from New Development, Redevelopment and Construction Sites  
(combined into one component in the Permit)
5. Pollution Prevention and Operation and Maintenance for Municipal Operations

# Public Education and Outreach

Goal is to reduce or eliminate behaviors or practices that contribute to stormwater impacts

## Minimum measures are to:

- Target 2 audiences in 2 years
- Measure success with targeted audiences
- Track and maintain records

# Public Education and Outreach: Targeted Audiences

- General public
- Home buyers and homeowners
- Landscapers, property managers and realtors
- Businesses
- Architects and engineers
- Contractors and developers
- Review staff and land use planners

# Home buyers and Homeowners



# Landscapers, property managers and realtors



# Businesses



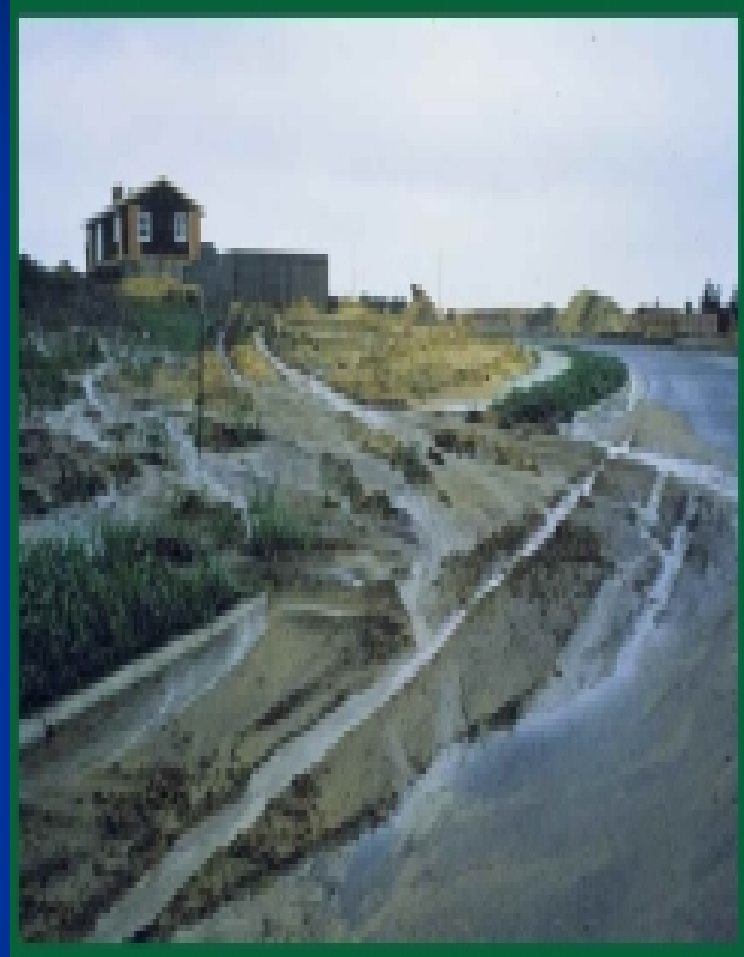
# Architects and engineers



# Contractors and developers



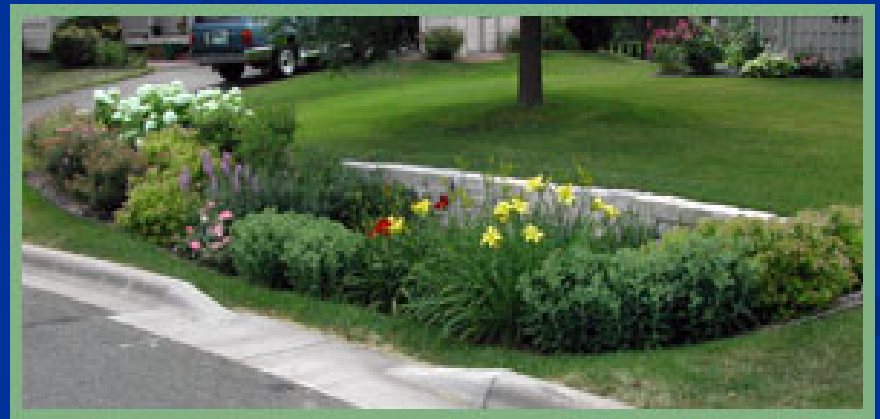
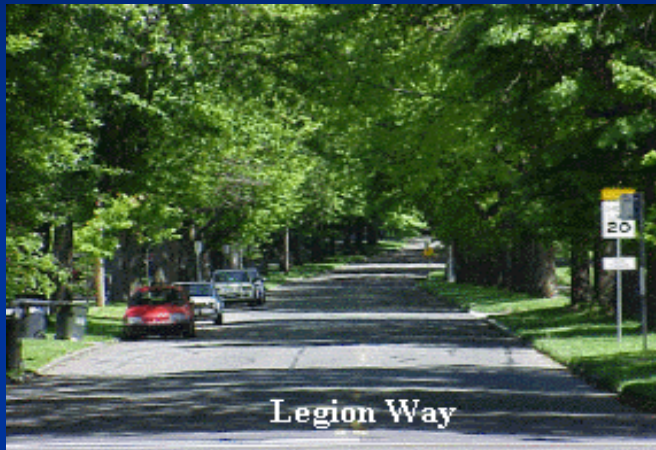
# Review staff and land use planners



# Review staff and land use planners: Parks and Recreation



# Review staff and land use planners: Roads



# Public Involvement & Participation



- Invite citizens to serve on panels or committees
- Provide public hearings and opportunities for comment
- Recruit citizen volunteers to help educate, coordinate or participate in volunteer monitoring efforts
- Make your SWMP & annual report documents available

# Illicit Discharge Detection and Elimination (IDD&E) Overview

- Storm Sewer **Map** – 4 years
- **Ordinance** to prohibit non-stormwater discharges – 2 years
- **Procedures** to detect & address non-stormwater discharges
- **Outreach** on illegal discharges
- **Evaluation and tracking** (3/08)
- **Training** for field staff – 2 ½ years

# IDD&E - Mapping

## Municipal Separate Storm Sewer System Map

- ✓ Location of outfalls
- ✓ Receiving waters
- ✓ Structural Best Management Practices (BMPs)
- ✓ 24-inch tributary conveyances
- ✓ Associated drainage areas
- ✓ Land use

# IDD&E – Mapping cont.

## Municipal Separate Storm Sewer System Map

- ✓ All connections to your MS4
- ✓ Geographic areas that do not discharge
- ✓ Made available upon request in electronic format
- ✓ Must be provided to co-permittees and secondary permittees upon request
- ✓ Mark future monitoring sites

# IDD&E Regulatory Mechanism

- Prohibit **non-stormwater** discharges
- Prohibit **illegal** discharges
- Prohibit **dumping** into MS4
  - ✓ to maximum extent under federal & state law
  - ✓ adopted 2 years from permit issuance
  - ✓ include a list of discharges **allowed**
  - ✓ include a list of discharges **not** allowed

# List of Discharges Not Prohibited

- Diverted stream flows,
- Rising ground waters,
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)),
- Uncontaminated pumped ground water,
- Foundation drains,
- Air conditioning condensation,
- Irrigation water from agricultural sources that is commingled with urban stormwater,
- Springs,
- Water from crawl space pumps,
- Footing drains, and
- Flows from riparian habitats and wetlands.

# Conditioned Prohibited Discharges

## Discharges from potable water sources

- ✓ water line flushing,
- ✓ hyperchlorinated water line flushing,
- ✓ fire hydrant system flushing, and
- ✓ pipeline hydrostatic test water.

Planned discharges shall be de-chlorinated, pH-adjusted, and controlled to prevent re-suspension of sediments.

# Conditioned Prohibited Discharges

- Discharges from lawn watering and other landscape irrigation runoff
- Dechlorinated swimming pool discharges
- Street and sidewalk wash water,
- Water used to control dust, and
- Routine external building wash down that does not use detergents

# Your IDD&E Program

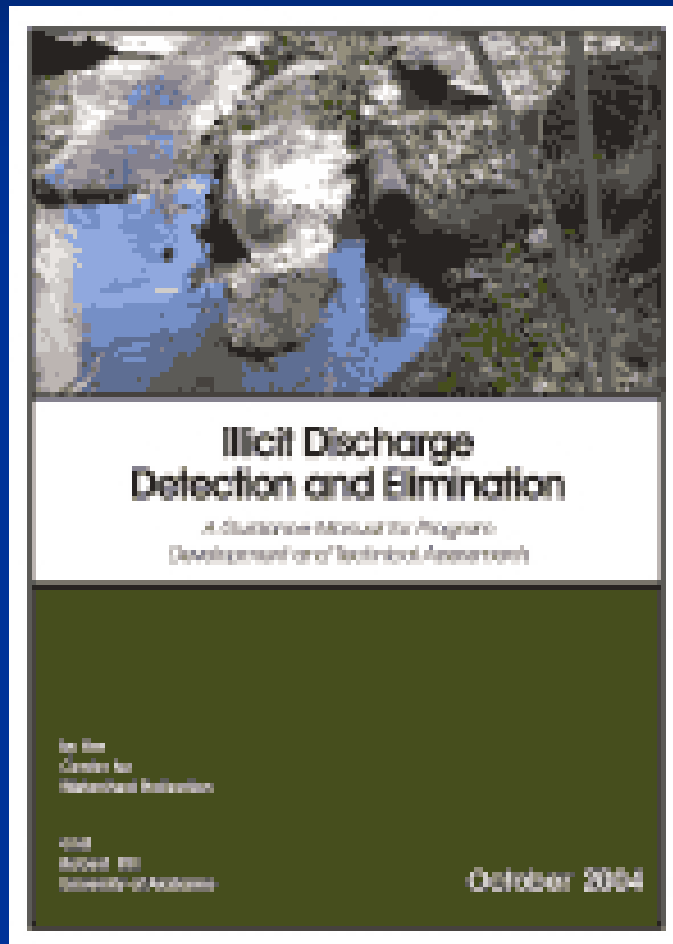
- Identify any **prohibited** category of discharge that is a significant source of pollutants
- Include appropriate **enforcement** provisions
- Develop an **enforcement** strategy
- Implement the **enforcement** strategy

# IDD&E Program

## Program must address:

- Priority **areas** likely to have illicit discharges
- **Field assessments** of priority outfalls – especially high priority water bodies
- **Screen** for illicit connections – guidance available from Center for Watershed Protection

# Center for Watershed Protection



## The Illicit Discharge Detection and Elimination Guidance Manual

A comprehensive research project between the Center for Watershed Protection and Dr. Robert Pitt of the University of Alabama.

# IDD&E Program

- ✓ Hotline - investigate complaints within 7 days
- ✓ Procedures for tracing sources
- ✓ Characterizing the nature of the illicit discharge
- ✓ Procedures for removing sources - within 180 days of detection
- ✓ Public education
- ✓ Staff training is required

# Controlling Runoff - Overview

1. Applies to **new development, redevelopment and construction sites** – 1 acre or greater or projects < 1 acre part of a common plan.
2. Applies to **private and public development**, including **roads**.
3. Relies on **Appendix I** – technical requirements in Ecology's 2005 Stormwater Management Manual for Western Washington.

# Controlling Runoff – Appendix 1

## Requirements for all Stages of Construction

1. Preparation of stormwater site plans
2. Construction stormwater pollution prevention
  - Construction SWPPPs
  - Erosivity waiver
3. Source control pollution
4. Preservation of natural drainage systems and outfalls

# Controlling Runoff – Appendix 1

5. On-site stormwater management
6. Runoff treatment
7. Flow control
  - Standard requirement for forested conditions
  - Alternative through watershed modeling
8. Wetlands protection
9. Basin/watershed planning
10. Operation and maintenance (O&M)

# Controlling Runoff Program

## Minimum performance measures:

- Adoption of a runoff ordinance in 2 years
- Permitting process with plan review
- Provisions for long-term O&M
- Recordkeeping
- Provide Notice of Intent (NOIs) for construction & industrial activities
- Training for staff

# Controlling Runoff: **Ordinance**

## Minimum Requirements from Appendix 1:

- ✓ Address new development, redevelopment and construction site projects
- ✓ Include enforcement mechanism
- ✓ More stringent requirements may be used
- ✓ Requirements can be tailored to local needs
- ✓ Provide equal protection of waters

# Controlling Runoff: **Ordinance**

## Site Planning, BMP Selection and Design Criteria:

- ✓ Reduce discharge of pollutants to MEP
- ✓ Apply All Known, Available, Reasonable methods of Treatment (AKART)
- ✓ Document how criteria will protect waters
- ✓ Citing Ecology's manual meets requirement

# Controlling Runoff: Ordinance

- ✓ Provide legal authority to inspect discharges to your MS4
- ✓ Provide preventative actions such as LID and measures to minimize impervious surfaces
- ✓ Provide enforcement sanctions for construction sites that misapply the erosivity waiver

**Note:** An erosivity waiver may be granted for projects meeting size, rainfall, timing, and application criteria (see p. 17 of Appendix 1).

# Controlling Runoff: **Permitting**

## Plan review, inspection & compliance capability:

- ✓ Apply to public and private projects
- ✓ Require qualified personnel
- ✓ Apply to sites 1 acre or greater or projects < 1 acre when part of a common plan
- ✓ Require inspections prior, during, and post construction
- ✓ Require enforcement and recordkeeping

# Controlling Runoff: **O&M**

## Ongoing O&M of stormwater facilities & BMPs:

- ✓ Ordinance identifies O&M responsibilities
- ✓ Adoption of O&M standards
- ✓ Inspection program
- ✓ Inspection of new facilities every 6 months during construction (i.e. of sub-division)
- ✓ Provide copies of NOIs for activities
- ✓ Training of staff on permitting, inspections, etc.

# Pollution Prevention and O&M for Municipal Operations



- Develop and implement program in 3 years
- Include training
- Prevent or reduce pollutant runoff

# Pollution Prevention and O&M for Municipal Operations

## Minimum performance measures:

- ✓ Adoption of O&M standards as protective as Vol. V of Ecology's 2005 Stormwater Manual
- ✓ Scheduled inspections of facilities
- ✓ Spots checks after major storm events
- ✓ Compliance with inspection requirements
- ✓ O&M for roads, parking lots or highways
- ✓ O&M for parks, open space, right of ways

# Pollution Prevention and O&M for Municipal Operations



Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment and maintenance yards.

# Pollution Prevention and O&M for Municipal Operations

- **On-going training** of employees on protecting water quality, O&M, inspections, the permit, selecting BMPs, and reporting water quality concerns, including illicit discharges.
- **Recordkeeping** of inspections, maintenance and repair activities.

# Common Threads in String Theory



1. Documentation, tracking, evaluation, and reporting
2. Training for staff & outreach
3. Ordinances, SEPA, MOAs, & regulatory mechanisms
4. Technical assistance and contact information

# Tracking, Evaluation and Reporting

Referenced 4 places in the permit (Summary):

1. S5 – part of developing the SWMP (6+2)
2. S7 – TMDLs, in Appendix 2 of the Permit.  
Complete list in Appendix C of the Fact Sheet.  
Actions taken for TMDLs must be reported.
3. S8 – Monitoring: TMDL, illicit, on-going and on preparations for future monitoring (2010)
4. S9 – Reporting Requirements - typo & Appendix 3

# Thread #2 - Training

## For Your Program Staff and Targeted Audiences

1. **Public Education and Outreach**
2. **IDD&E** – identification, reporting & response
3. **Controlling Runoff** – permitting, plan review, construction site inspection and enforcement
4. **Pollution Prevention & O&M** – protecting WQ, permit requirements, O&M standards, inspection procedures, BMP selection, reporting and response procedures

# Thread #3: Regulatory Mechanisms

Adopted & enforceable: ordinances, plans permits, standards, procedures or manuals

1. **IDD&E** – prohibit non-stormwater, illegal discharges, dumping and response procedures
2. **Controlling Runoff** – for new development, redevelopment and construction sites that is equivalent to Ecology's manual
3. **Pollution Prevention & O&M** standards

# Thread #4 Technical Assistance

## Resources for Municipal Stormwater Managers

[http://www.ecy.wa.gov/programs/wq/stormwater/municipal/resources\\_municipalities.html](http://www.ecy.wa.gov/programs/wq/stormwater/municipal/resources_municipalities.html)

### 1. Public Education

EPA Outreach Toolbox - contains sample posters, radio and TV Ads Project WET - K-12 education on water and other curricula on water

### 2. Public Participation

Getting in Step - Conducting Effective Stormwater Education & Outreach

# Thread #4 Technical Assistance

3. Illicit Discharge Detection & Elimination

[Center for Watershed Protection](#)

4. Construction Runoff Control

[Environmental Protection Agency \(EPA\)  
Guidance](#)

5. Post Construction Runoff Control

[EPA Guidance](#)

6. Pollution Prevention & Good Housekeeping

[EPA Guidance](#)

Useful Links

# Ecology Contact Information

In the following counties:

- King, Kitsap, or Snohomish,  
Ed Abbasi (425) 649-7227
- Skagit, or Whatcom,  
Steve Hood (360) 738-6254
- Clark, Cowlitz, Clallam, Grays Harbor, Pierce, or Thurston  
Garin Schrieve (360) 407-6272 & Alison Chamberlin (360) 690-4787
- Benton, Chelan, Douglas, Kittitas, or Yakima,  
Terry Wittmeier (509) 574-3991
- Asotin, Franklin, Grant, Spokane, Walla Walla, or Whitman,  
Dave Duncan (509) 329-3554